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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,396	03/13/2001	Keiichi Kaneko	0102/0159	1193

21395 7590 11/03/2004

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EXAMINER
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DEPPE, BETSY LEE

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

*Supplemental*  
**Notice of Allowability**

Application No.

09/804,396

Examiner

Betsy L. Deppe

Applicant(s)

KANEKO ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 22 July 2004.
2. ☒ The allowed claim(s) is/are 1-7.
3. ☒ The drawings filed on 22 July 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>20041101</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                                    |
|   | 9. <input type="checkbox"/> Other _____.   |

### **SUPPLEMENTAL EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Louis Woo on November 1, 2004.

2. The application has been amended as follows: replace all prior versions of claim 7 with the following;

7. (Amended) In an orthogonal frequency division multiplexing modulation system, a method of generating a transmission signal, comprising the steps of:

determining first non-compensation signal points in a two-dimensional plane without considering a signal error caused by digital quadrature modulation, the two-dimensional plane being defined by a real axis and an imaginary axis, the real axis corresponding to real-part signal components, the imaginary axis corresponding to imaginary-part signal components;

determining second non-compensation signal points in the two-dimensional plane without considering the signal error caused by digital quadrature modulation;

determining first compensation signal points in the two-dimensional plane for each of a plurality of first subcarriers on the basis of the first non-

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compensation signal points and in response to a signal error caused by digital quadrature modulation if the first non-compensation signal points are used, the first subcarriers having different frequencies respectively;

determining second compensation signal points in the two-dimensional plane for each of a plurality of second subcarriers on the basis of the second non-compensation signal points and in response to a signal error caused by digital quadrature modulation if the second non-compensation signal points are used, wherein each second subcarrier is equal in frequency to a respective first subcarrier and is different in polarity from the respective first subcarrier;

sequentially assigning first digital information signal pieces to one of the first compensation signal points in response to contents of the first digital information signal pieces;

sequentially assigning second digital information signal pieces to one of the second compensation signal points in response to contents of the second digital information signal pieces; and

subjecting the first digital information pieces and the second digital information pieces to a modulation process including digital quadrature modulation in response to the assignments given by the assigning steps to generate a radio-frequency transmission signal including an orthogonal frequency division multiplexed signal containing the first and second subcarriers.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betsy L. Deppe  
Primary Examiner  
Art Unit 2637